

AAIM Perspectives

AAIM is the largest academically focused specialty organization representing departments of internal medicine at medical schools and teaching hospitals in the United States and Canada. As a consortium of five organizations, AAIM represents department chairs and chiefs; clerkship, residency, and fellowship program directors; division chiefs; and academic and business administrators as well as other faculty and staff in departments of internal medicine and their divisions.

AAIM Recommendations to Improve Learner Transitions



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INTRODUCTION

Numerous factors impact the optimal transition of learners from medical school to residency and from residency to fellowship. The motivation to successfully match learners influences medical schools and residency programs, potentially at the expense of transparency and learner preparation. The differing goals of medical schools, residencies, and fellowships lead to mistrust in some of the information received, especially in medical student performance evaluation (MSPE) and its residency equivalent, the program director letter of recommendation (LoR).¹⁻³

These transitions are further impeded by the different assessment tools and strategies utilized by residencies and medical schools. Residencies and fellowships use tools to assess competencies within milestones, while medical schools have traditionally relied on norm-based reference standards.⁴ Many medical school assessment tools tend to be performance oriented and

static measures at a given time;⁵ however, there is a movement toward competency-based assessments to include entrustable professional activities. Often, assessments of practice-based skills—including self-reflection, situational awareness, and organization—that may be useful to residency directors are not consistently measured or reported.⁶ MSPEs not only provide incomplete assessment data, but may contain biased language, miss key observations, and focus on performance over improvement, further highlighting institutional variations in assessment and grading practices.⁷⁻¹⁰ With the dissolution of the Step 2 Clinical Skills examination, the imminent transition of the Step 1 examination to a pass/fail system, and the prevalence of systemic bias in evaluations and communications, building trust to rectify the transition process is paramount.

Residency and fellowship applications are completed before a learner's education and training are concluded. To add to the incongruity, there is currently no standardized practice to update the receiving program on a learner's progress as they complete their education and training, which disadvantages learners who may need more growth opportunities. As a result, a post-Match handoff is essential, wherein educators and learners communicate and collaborate to develop a learning plan to address these gaps, thereby ensuring the learner's success.

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The charge of the Alliance for Academic Internal Medicine (AAIM) Medical Education Learner Transitions Improvement Task Force was to create a framework for the eventual development of transition tools to enhance progression across educational venues. In the context of medical education, the transitions of learners span beyond a single point in time. Variances within the advising, application, and interview processes warrant deliberate analysis and improvement. However, these recommendations focus specifically on a framework for communication among educational programs, recognizing the need to mitigate bias and foster diversity and equity throughout the process.

RECOMMENDATIONS

AAIM utilized the CLASS framework⁷ to inform its recommendations (Table 1). This system, adapted from patient handoff tools, requires input from the sending institution, receiving institution, and the learner to complete the full transition. It focuses on competencies achieved by the student, includes a summary of their performance, an action list for the receiving program, provides insight into the student's own awareness of skills/behaviors, and requires synthesis by the receiving program. This framework promotes active information exchange among participants and deliberately includes an assessment of situational awareness, defined as the need for learners to understand how to communicate in complex and stressful environments to achieve a goal.^{11,12} Enhancing situational awareness has been shown to decrease medical errors and optimizes bidirectional information exchange among members of the care team as well as between providers and patients.^{11,13-18} A validated assessment of situational awareness, therefore, would contribute to a holistic view of several Accreditation Council for Graduate Medical Education competencies—including patient care and procedures, interpersonal and communication skills, systems-based practice, and professionalism. Further consideration will be needed to determine the best methodology to integrate assessments of emotional intelligence, growth mindset, and resilience.

Using this framework, AAIM makes the following recommendations about assessment tools:

- 1) For effective communication to occur, members at each level of the educational continuum should jointly define and implement a common assessment framework, lexicon, and set of competencies to enhance information transfer. This shared mental model will facilitate learning, facilitate handovers, and ultimately, promote the public good.
- 2) Individual learning plans, developed through collaboration between learner and their designated coaches or mentors, are paramount to promoting a growth mindset and defining steps to improve performance across all transitions. All developed tools must facilitate this process, including the potential for the development of a standardized template as well as a clinical competency committee (CCC) equivalent at the undergraduate medical education (UME) level that mirrors the existing structure at the graduate medical education (GME) level.¹⁹
- 3) The assessment tools used to determine learner competency must be robust, valid, and utilize the common agreed-upon language to ensure trustable, understandable data that learners and educators can utilize across the continuum.
- 4) Assessment tools must reflect the core principles of diversity, equity, and inclusion and be studied over time to determine if they reduce systemic biases.
- 5) Optimal strategies and tools for assessing situational awareness, emotional intelligence, growth mindset, and resilience in learners should be developed.
- 6) Processes and tools developed to promote educational handoffs should be studied through the lens of continuous quality improvement to ensure the desired impact is being achieved without unintended consequences.

We recognize that operationalizing these recommendations to optimize transition across the medical education spectrum will require significant effort. While systems should be developed to make the transfer of information as simple as possible, AAIM advocates for departments of internal medicine and medical schools to support faculty with the time and resources they need to accomplish this important work. These processes will also require significant faculty development. As such, we advocate for the protected time to partake in these professional development sessions.

PERSPECTIVES VIEWPOINTS

- There is no current standardized practice of handover communication between sending and receiving programs on learners' progress as they complete their education and training.
- The Alliance for Academic Internal Medicine recommends utilizing the CLASS transition model to create a framework for assessments and warm handoffs at transitions pre-match, post-match, and post-advancement. A uniform lexicon should be adopted.
- The development of assessment tools focused on practice-based skills, including situational awareness, is an area of needed research.

Table 1 CLASS Transition Model

	Medical School to Residency	Residency to Fellowship
Competencies Achieved	Core EPAs	Milestones
Learner's Performance (Current Tools)	Shelf examinations Direct observation/work-based assessment 360 evaluations OSCE Extracurriculars, including involvement/ engagement in medical school	Informing the CCC: ITE Direct observation/work-based assessment 360 evaluations Extracurriculars, including involvement/ engagement in residency program
Action Items	Informing an individualized learning plan: Learning style inventory Portfolio (self-reflection) Mentor report Coach report Plan aims should meet SMART criteria: Specific Measurable Achievable Relevant Time-bound Define metrics for success of plan: Desired outcomes Process measures Balance measures	Informing an individualized learning plan: Learning style inventory Portfolio (self-reflection) Mentor report Coach report Plan aims should meet SMART criteria: Specific Measurable Achievable Relevant Time-bound Define metrics for success of plan: Desired outcomes Process measures Balance measures
Situational Awareness	Define core areas for specialty and assess in each area (eg, ICU, OR, Trauma unit) and apply Endsley Model to each area: Level 1 – Data perception Level 2 – Comprehension of relevant data Level 3 – Forecast future events or scenarios based on a high level of understanding of the situation Level 4 – Awareness of the best path to follow	Define core areas for specialty and assess in each area (eg, ICU, OR, Trauma unit) and apply Endsley Model to each area: Level 1 – Data perception Level 2 – Comprehension of relevant data Level 3 – Forecast future events or scenarios based on a high level of understanding of the situation Level 4 – Awareness of the best path to follow
Synthesis by Receiver of Current Abilities	Early assessment during PGY-1 (6-8 months post-start) with feedback to school based on MSPE and transition tool report	Early assessment during F-1 (6-8 months post- start) with feedback to program based on PD LoR, milestone report, and transition tool report

CCC = clinical competency committee; EPA = entrustable professional activities; ICU = intensive care unit; ITE = in-training exam; LoR = letter of recommendation; MSPE = medical student performance evaluation; OR = operating room; OSCE = Objective Structured Clinical Examination; PD = program director; PGY = postgraduate year.

There are 3 important points of communication to foster more effective educational handoffs: pre-Match, post-Match, and post-advancement. To facilitate progress on all key points of communication, the Alliance proposes concrete, actionable steps (Table 2). In keeping with the Alliance's ongoing support to promote diversity, equity, mutual respect, and inclusiveness, each of the proposed "next steps," to be undertaken by the proposed medical education transitions committee, should have these tenets of integrity and justice at the forefront.

Pre-Match

AAIM supports the eventual transition from LoRs to structured evaluative letters (SELs).^{19,20} To build on this important work, the task force recommends adapting the AAIM SEL template into an electronic format,

complete with searchable data entry fields to enhance data extraction and interpretation. The SEL template undertakes honest reporting, requiring accurate assessments and data about learner performance to reflect objectivity and enhance transparency on their cognitive and non-cognitive skills. The Alliance acknowledges that uniformity of uptake at medical schools in the United States may be challenging. A longitudinal study of SEL assimilation, strengths, challenges, and areas of improvement should be undertaken by either the proposed pre-Match work group (Table 2) or the existing AAIM Medical Education Research Committee. Partnership with the Educational Commission for Foreign Medical Graduates and osteopathic organizations will be necessary to develop a format that will be usable for international medical schools and the osteopathic community. A separate SEL may be warranted to

Table 2 Task Force Recommendations to AAIM

Recommendations for Immediate Implementation	Timeline	Internal and External Partnerships	Anticipated Challenges
<ol style="list-style-type: none"> 1. Convene a standing Medical Education Transitions Committee. As the Alliance stands in solidarity with CoPA's recommendations, AAIM and the subsequent Medical Education Transitions Committee should consider instituting work groups to address the Coalition's final recommendations. The MELTI TF recommends that the subsequent Transitions Committee institute work groups that would address the 3 key timepoints for communication: <ol style="list-style-type: none"> a) Pre-Match b) Post-Match c) Post-Advancement 2. Create a resource page on the AAIM website containing articles and resources to facilitate optimal learner transition 	<p>Within 3 months of its inaugural meeting, the Medical Education Transitions Committee should establish work groups within its purview, identify key external stakeholders with whom to partner, and develop a business plan with associated timelines. It is important that these work groups have a clear understanding of their respective scopes, and the business plan should articulate their respective activities and timeframes.</p> <p>To be accomplished within year 1 of Medical Education Transitions Committee's inauguration.</p>	<ul style="list-style-type: none"> - CDIM, APDIM, and ASP members - Academic librarian to assist in literature reviews. - Membership should include representation by individuals with expertise in diversity, equity, and inclusion. 	<p>Aspects of education transitions outside the sphere of AAIM's purview (ie, NRMP, MSPE)</p>
Recommendations Pertaining to SEL and PD LoR			
<ol style="list-style-type: none"> 3. Pre-Match Work Group refines characteristics of structured evaluative letters (SEL) and provides education about use. 4. Investigate and develop a SEL for implementation at the residency-to-fellowship transition. 	<p>Year 1-2: Identify external stakeholder representatives, prioritization, determination of key characteristics, and recommend who within a medical school should complete the IM SEL (eg, clerkship director, department chair, faculty advisor).</p> <p>Years 2-3: Pilot; analysis of uptake and consider conducting a SWOL analysis.</p> <p>Years 3-4: After conducting SWOT, further refine SEL and seek council/Board of Directors review.</p> <p>Years 4-5: Determine CQI process, to include hosting preliminary conversations with AAMC about feasibility of incorporating successful aspects of the SEL into standard, searchable fields in ERAS. Further, provide guidance to UME (advisory dean, specialty mentor, sub-I director, and clerkship director) on how best to revise their evaluation and its processes to better reflect and adhere to the revised SEL.</p> <p>Year 1-2: Identify external stakeholder representatives, prioritization, and determination of key characteristics.</p> <p>Years 2-3: Pilot; analysis of uptake and consider conducting a SWOL analysis.</p> <p>Years 3-4: After conducting SWOL, further refine SEL and seek council/Board of Directors review.</p> <p>Years 4-5: Determine CQI process, to include hosting preliminary conversations with AAMC about the feasibility of incorporating successful aspects of the SEL into standard, searchable fields in ERAS. Further, provide guidance to PDs on how best to revise their evaluation and processes to better reflect and adhere to the revised SEL.</p>	<ul style="list-style-type: none"> - ECFMG, AACOM (or other osteopathic organizations) - Collaborate with the AAIM SEL Writing Group (lead authors could serve as advisory members). <p>Post-advancement work group, ASP, ECFMG, AACOM</p>	<ul style="list-style-type: none"> - Medical schools outside the United States unlikely to tailor their tools to the needs of US GME community. - Uptake by individual institutions <p>Uptake by individual institutions</p>
Recommendations Pertaining to Situational Awareness			
<ol style="list-style-type: none"> 5. Building upon the work of the AAIM Assessment Task Force, define optimal strategies and tools for the assessment of situational awareness in learners. This would include ascertaining how best to integrate assessments in emotional intelligence, growth mindset, and resilience. 6. Develop faculty development tools to train faculty on proper means to assess situational awareness and how best to promote assessment of situational awareness. 	<p>Year 1-2</p> <p>Years 2-3</p>	<ul style="list-style-type: none"> - Pre-Match Work Group - 1-2 representatives from the previous Assessment Task Force should take part in the succeeding Transitions Committee or, if unavailable, serve as advisors. - Alliance for Clinical Education (ACE) - Pre-Match Work Group - 1-2 representatives from the succeeding Faculty Development Committee should take part in the Transitions Committee or, if unavailable, serve as advisors. 	<p>Gaps in current state of research</p> <p>The above recommendations should be addressed first (ie, assessment tools to address situational awareness)</p>

Table 2 (Continued)

Recommendations for Immediate Implementation	Timeline	Internal and External Partnerships	Anticipated Challenges
		<ul style="list-style-type: none"> - Alliance for Clinical Education (ACE) 	
7. Incorporate measures of situational awareness into the SEL and PD LoR	Years 3-5	<ul style="list-style-type: none"> - Pre-Match Work Group (SEL) and Post-Match Work Group (PD LoR) - 1-2 representatives from succeeding Faculty Development Committee - Lead authors from AAIM SEL Writing Group - 1-2 representatives from Assessment Task Force 	Need for assessment tools and faculty development to occur prior to incorporation of this component.
Recommendations Pertaining to Handoff and Communications			
8. Develop standardized post-Match handoff tools and provide education about their use. The Assessment Task Force's recommendations should be referenced as a starting point to this initiative.	Year 1-2	Post-Match Work Group, ECFMG, AACOM	Uptake by individual institutions.
9. Upon developing a post-Match handoff tool(s), the work group should endeavor to implement a CQI process for these tools.	Years 2-3	Post-Match Work Group	
10. Develop standardized post-advancement communication tools and provide education about their use. The Assessment Task Force's recommendations should be referenced as a starting point to this initiative.	Years 1-2	Post-Advancement Work Group, ECFMG, AACOM	Uptake by individual institutions.
11. Develop and implement a CQI process for the post-advancement tools.	Years 2-3	Post-Advancement Work Group	
Recommendations Pertaining to Assessment Tools			
12. Based on outcomes from aforementioned recommendations, develop standardized assessment tools across the continuum of medical education	Years 3-5	1-2 representatives from the previous Assessment Task Force should take part in succeeding Transitions Committee or, if unavailable, serve as advisors.	Aspects of adoption outside the sphere of AAIM's management/control (eg, uptake and operationalization of external stakeholders like AAMC, NRMP)

AACOM = American Association of Colleges of Osteopathic Medicine; AAIM = Alliance for Academic Internal Medicine; AAMC = Association of American Medical Colleges; APDIM = Association of Program Directors in Internal Medicine; ASP = Association of Specialty Professors; CDIM = Clerkship Directors in Internal Medicine; CoPA = Coalition for Physician Accountability; CQI = continuous quality improvement; ECFMG = Educational Commission for Foreign Medical Graduates; ERAS = Electronic Residency Application Service; GME = graduate medical education; LoR = letter of recommendation; MELTI TF = Medical Education Learner Transitions Improvement Task Force; MSPE = medical student performance evaluation; NRMP = National Resident Matching Program; PD = program director; SEL = Structured Evaluative Letters; SWOT = strengths/weaknesses/opportunities/threats; UME = undergraduate medical education.

accommodate international medical graduates. In addition, to facilitate a seamless transition across the entire medical education continuum, a separate SEL to address the residency to fellowship transition should be developed.

Post-Match

AAIM recommends applying the patient safety methodology of the warm handoff to standardize the post-Match transition.²¹ In the context of the UME to GME transition, an optimal handoff reflects student competency assessments that have occurred within settings that the learner would encounter during residency training. Evaluations by supervising faculty and residents,

to include nursing and patient perspectives as well, should be gathered during the fourth year of medical school in the context of an internal medicine subinternship, an outpatient clinical rotation, and ideally, the emergency department and intensive care unit. Information gathered from simulations, Objective Structured Clinical Examinations, direct observations of competence, and other assessment activities during the fourth year may also inform these competency assessments. Undergraduate programs should incorporate information from these assessments into a milestone-based handoff for each student, as reflected in the current iteration of the AAIM SEL. This handoff should address those milestone sub-competencies of greatest initial importance to residency program directors. At a

minimum, this would include patient management—inpatient (PC4) and outpatient (PC5), system navigation for patient-centered care (SBP2), reflective practice and commitment to personal growth (PBLI2), accountability/conscientiousness (PROF3), and patient- and family-centered communication (ICS1).²¹ In addition, the handoff should include a narrative self-assessment by the student, with focus on areas of growth required for successful residency transition. This narrative should be guided by an advisor or mentor in the field of internal medicine.

Within the residency-to-fellowship structure, the final CCC meeting provides residency training programs an opportunity to formulate a summative assessment of each competency for every learner. Typically, these meetings involve a review of all recent trainee performance assessments, as well as a group discussion of specific trainee behaviors that were not captured by assessment tools.²² Currently, CCC discussions inform milestone completion and enable submission to the Accreditation Council for Graduate Medical Education by the end of June. A slight alteration in this timeline would enable fellowship programs to receive relevant competency-based summative assessments several weeks in advance of commencing fellowship. As in the UME to GME transition handoff, guided self-assessment by the learner, with a focus on areas of growth required for successful fellowship transition, should be included in this handoff to fellowship training.

Post-Advancement

AAIM recommends that residency and fellowship programs report standardized outcomes back to the programs from which their trainees came. The content of this feedback should include CCC-determined milestone subcompetency attainment 6 to 8 months after starting the new training program. Standardized communication back to schools and residency programs will allow all medical educators to assess the long-term impact of curricular interventions using universal outcomes and thus facilitate continuous quality improvement across the educational continuum.

FUTURE DIRECTIONS

In August 2021, the Coalition for Physician Accountability (CoPA) released 34 recommendations to improve the UME to GME transition.²³ Conceptually, the recommendations of this task force are in alignment with those of CoPA, while expanding to include the residency-to-fellowship transition. Notably, CoPA recommends a jointly defined and implemented common framework and set of competencies/outcomes across the entirety of the medical education continuum—a core tenet of the Alliance task force's work, and vital for the development of educational handoff tools. Additionally, CoPA stresses the need to develop a

methodology to deliver assessment information that becomes available after the MSPE has been written (ie, during the fourth year of medical school, with the residency-to-fellowship corollary being the AAIM standardized program director LoR). The AAIM recommendations strengthen this CoPA priority by suggesting a structure and timing for these communications, while furnishing learner-performance feedback to the graduating medical school or residency program from which they hail. This closed-loop communication will enable medical schools and residency programs to better calibrate their assessment tools and facilitate the creation of individualized learning plans by the accepting programs.

Beyond the limited scope of CoPA, collaboration between UME and GME leadership and with other national and international organizations is imperative to implement a cohesive transition. These recommendations rely on the creation of a common infrastructure encompassing robust, validated assessment tools across training sites within the United States and, importantly, internationally. In particular, tools focusing on objective measures of situational awareness have been theorized to be more sensitive and accurate than more traditional assessments, and should be explored.²⁴ Additional time and resources will need to be devoted for the creation of these tools, building of infrastructure, implementation of novel assessments, and development of an individualized educational handoff. Further study is needed to define those resources and the faculty development needed to implement them locally. Understanding the limitations of international medical schools, many of which do not utilize the same tools, is important and requires further research and the active participation of the Educational Commission for Foreign Medical Graduates. The Alliance is ideally poised to pilot and disseminate tools as well as provide a faculty development network. Despite AAIM's strong framework, developing these tools, resources, and structure will take time and monumental effort, and may be followed with variable adherence. Additional research is needed to evaluate and overcome systematic and institutional barriers to implementation.

A transition hurdle that was not addressed by CoPA, and was beyond the scope of the Alliance, is the GME start date. Residency and fellowship start and stop dates are inconsistent across GME. Variable start dates without adequate transition time may impede personal growth and well-being during these transitions. Learners should have consistent and protected time to ensure that individual wellness safeguards are available. AAIM has previously been successful in lobbying for a uniform start date for internal medicine fellowships, as well as advocating for many of the subspecialties to enter the Medical Subspecialties Match. AAIM should continue to address the start and stop date inconsistency.

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